Status of Reference Event Collection for Western Eurasia, the Middle East, Northern Africa, and Europe - The Group 2 Location Calibration Consortium Reference Event List 2.0 Delivery.

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Abstract

The Group2 Consortium devotes considerable effort in collecting, validating and vetting reference events in the Consortium's region of interest with the recognition that model-based SSSCs cannot be validated without a high-quality set of reference events. Consortium members have established many cooperative contacts in the region. Event selection criteria have been developed to facilitate bulletin search for candidate reference events. The secondary azimuthal gap has proven to be one of the most powerful parameter for candidate reference event selection. Our GT5 event selection criteria at the 95% confidence level requires that an event is recorded by at least 10 stations within 250 km with azimuthal gap less than 110 degrees and with secondary azimuthal gap less than 160 degrees. We also require at least one station within 30 km from the epicenter and that the event be recorded beyond 250 km.

The latest release of the Group2 Reference Event List contains more than 1,800 GT0-10 reference events with some 65,000 regional (Pg, Pn, Sn, Lg) and 126,000 teleseismic (P, S) raypaths. Each event is validated, quality controlled and documented with metadata (references to published papers, personal communications, etc.). The Reference Event List can be browsed at the Consortium's website, http://g2calibration.cmr.gov/calibration/data.html#refevents. The Reference List formed the base of relocation studies by Yang et al. and Bhattacharyya et al. (2002, this meeting).

The Consortium has recently established an event cluster database. The database contains some 4,000 regional and 8,000 teleseismic empirical path corrections from 62 clusters in the Group 2 region. The event cluster database provides a valuable dataset for validating models, predicted path corrections (SSSCs) and the corresponding model errors.

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